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Patent Title: TARGET OF PB SERIES FERROELECTRIC SUBSTANCE FOR SPUTTERING

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Abstract: PURPOSE: To evade the prolongation of sputtering time by using a target obtd. by mixing powdery Pb series ferroelectric substance having specified grain diameter and powdery PbO and executing sintering.

CONSTITUTION: A PZT (PbO. 5ZrO. 5TiO<sub>3</sub>) lump is pulverized by a ball mill or the like to form powdery Pb series ferroelectric substance PZT having (less than)10( $\mu$ )m average grain diameter. The mixed powder of it with PbO powder having (less than)10( $\mu$ )m average grain diameter is sintered by using HIP or the like and is worked to form prescribed shape, and bonding on a backing plate to form a target. By using this target, an ferroelectric substance film having 3000 $\text{\AA}$  thickness is formed on an Si water substrate by a magnetron sputtering device. In this way, by regulating the average grain diameter even in the target enriched with Pb into specified value, wear on the surface of the target is made uniform, and the sputtering time can be reduced.

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